

living in the heart of the town amidst a net-work of roads and street lighting, also took *bennetii* in his M.V. Furthermore, I always saw at least a dozen *Hydraecia paludis* Tutt and three or four *Apamea oblonga* Haw. in a season, but only once saw *Leucania favigolor* Barrett though a great wanderer, as Robin Mere took it at Chiddingfold.

I do not think sufficient emphasis has been laid in the past on the wandering habits of micros. In August 1958 I took in my garden M.V. a specimen of *Nephopteryx semirubella* (Scop.) and the same night Mr A. J. Dewick took two at Bradwell-on-Sea. I collected for fourteen years at Gravesend and never found *semirubella* nearer than Luddesdown, on the pure chalk, some six miles away. My insect must have crossed the Thames and come twelve miles, and Mr Dewick's about forty. Not bad for a moth which is usually difficult to kick up!

I have also had one *Ptycholomoides aeriferana* (H.-S.) and two *Lozotaenia formosana* Fröl., although we have no firs or larches within twenty miles except an odd one in a garden.

These casual wanderings make me very tolerant of what appear to be curious records, although I never accept them without seeing the insect.

Interspecific Competition in Butterflies

By Dr C. J. LUCKENS

(52 Thorold Road, Bitterne Park, Southampton SO2 4JG)

Mr Sevastopulo has once again thrown down the glove on the subject of interspecific competition in butterflies (1973, *Entomologist's Record*, Volume 85, page 247, and 1972, *Entomologist's Record*, Volume 84, page 76), and refers again to my casual comment on *Argynnis cydippe* L. and *A. aglaia* L. in a Sussex wood (1971, *Entomologist's Record*, Volume 83, pages 261-2).

The hypothesis that these two very similar butterflies compete in localities common to both is by no means a new one. There was a fair amount of correspondence on the same subject in *The Entomologist* in the mid 50's.

The fact of the matter is that in several instances the withdrawal of *cydippe* from a locality has coincided with the arrival or increased abundance of *aglaia*. I do not know, personally, of any cases where the reverse has happened, but in the relatively few localities where the two species fly commonly together a sort of dynamic equilibrium seems to operate.

A further example of this interspecific competition has occurred in North America, where the native *Pieris napi* L. and *P. protodice* Boisduval and Leconte (Checkered White) have both been displaced by the introduced *P. rapae* L. The two native species, formerly widespread, have been pushed by the advance of *P. rapae* into much restricted ranges and even different habits and habitats. No less an authority than Professor Alexander Klots states that the decline of these indigenous butterflies in North America is probably due to their failure

to meet the competition of *P. rapae* (Vide *A Field Guide to the Butterflies of North America East of the Great Plains*, pages 200-201). All these species feed on various *Cruciferae*. As Mr Sevastopulo would say "surely there is *cruciferae* enough for all".

In most cases I'm sure that there is; and similarly in most localities where *cydippe* and *aglaia* compete, neither is numerous enough to exhaust supplies of dog violet. Competition for food plant is probably not the critical factor in these cases. Something else is involved—perhaps the need for *lebensraum*? Whatever this unknown factor (or set of factors), there is little doubt that one species occupying its own particular ecological niche can be displaced from it by a similar (more vigorous) one occupying roughly the same position in the environment, even while this environment remains stable. I believe that this concept is recognised in all fields of zoology. A subtle ecological change can hardly have affected the former ranges of both *protodice* and *napi* in America in the same areas and at the same time that *rapae* has advanced and the two *indigenae* have declined.

I certainly have no simple answer to the mechanics of inter-specific competition, but it does exist, when both ecological conditions are stable and when there is sufficiency of food plant.

Perhaps Mr Sevastopulo could shed some light on what troubles him so much about this concept?

Late Autumn in the Isles of Scilly

By R. P. DEMUTH

(Watercombe House, Oakridge, Glos.)

In an attempt to break new ground I visited St. Mary's between October 16th and 22nd 1973. I stayed at Normandy in the south-east corner of the island to obtain shelter from the anticipated westerly gales. I was also within a quarter mile of the shore line and an extensive fresh water marsh.

I might say that I went with high hopes of exciting migrants filling the M.V. trap and my optimism was braced by information that at least one *Anosia plexippus* L. was at that moment flying on the islands; a *Leucania unipuncta* Haw. in the M.V. trap at Lamorna Cove on my last night on the mainland and the taxi driver at St. Mary's who drove us to Normandy and explained that he had a *Herse convolvuli* L., which he had picked up on the quay, in a matchbox (some matchbox!).

The reality was very different. I found that Scilly had a bad autumn from September 15th onwards and on the day of our arrival there was a strong and bitterly cold north wind which persisted for the next three days with clear nights and a near frost. It was difficult to find anywhere suitable for sugaring but I put on a fair round on the trunks of the pollarded elms which act as windbreaks round the daffodil fields.